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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,339	11/14/2003	Rainer Ostermann	35156US1	9850
116	7590	11/14/2006	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			GREENHUT, CHARLES N	
			ART UNIT	PAPER NUMBER
			3652	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/713,339	<b>Applicant(s)</b> OSTERMANN ET AL.	
	<b>Examiner</b> Charles N. Greenhut	<b>Art Unit</b> 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-23 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

**I. Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-7, 9-12, 14-15 and 19 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over ANDERLE (US 5,275,709 A) in view of OGATA (US 6,313,903 B1).

1.1. With respect to claim 1, ANDERLE discloses a first (A) and second (B) tower sharing a common vacuum transport chamber (7) with a transport robot (13) disposed therein. In ANDERLE however, only the first tower (A) comprises the claimed vertically stacked processing and load lock stations, while tower (B) consists solely of processing stations. OGATA teaches towers (5A)/(5B), surrounding a common transfer chamber and transfer mechanism (22), with each tower (5A)/(5B) having a transferring unit (51). It would have been obvious to one of ordinary skill in the art to modify ANDERLE with transferring units in both towers as taught by OGATA in order to allow wafers to exit at a location different from their entrance, thereby increasing system throughput.

1.2. With respect to claims 3-6, ANDERLE additionally discloses a horizontal substrate support (8) rotatable about a vertical axis, rotational movement limited to at most 45°. Note that ANDERLE employs an unconstrained support (8) and while this support doesn't rotate about a vertical axis it is capable of this motion and therefore meets the limitations of claim 3. Furthermore, with respect to claims 5 and 6, a limitation

reciting "[rotation of] at most 45°" is met by rotation of anything less than that value, including 0°.

1.3. With respect to claims 7, 9-12, 14-15, 19 ANDERLE additionally discloses a support (8) driven in horizontal and vertical directions (D)/(E)/(F)/(G), single substrate processing module (4a) and single substrate input/output load-lock (5) the load-lock comprising an input, two towers (A)/(B) on opposite sides, a coating arrangement (4-e).

1.4. With respect to claim 18, ANDERLE fails to specify a substrate size. Substrates having a size of 1m<sup>2</sup> are well-known. It would have been obvious to one of ordinary skill in the art to modify ANDERLE to accommodate a 1m<sup>2</sup> substrate.

2. Claim(s) 8, 13, 16-17 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over ANDERLE in view of OGATA and further in view of YONEMITSU (US 5,788,447 A).

2.1. With respect to claims 8, and 13, YONEMITSU teaches batch load-locks (301) and batch processing modules (701). It would have been obvious to one of ordinary skill in the art to modify ANDERLE with the batch processing capabilities of YONEMITSU in order to increase throughput.

2.2. With respect to claims 16 and 17, OGATA teaches exclusively two load-lock-processing towers (Fig. 4). ANDERLE fails to teach a U-shaped or a Y-shaped footprint. YONEMITSU teaches a U-shaped footprint (Fig. 11) and a Y-shaped (Fig. 13). It would have been obvious to one of ordinary skill in the art to modify ANDERLE in view of OGATA with a U-shaped or a Y-shaped footprint in order to conform to space constraints.

## **II. Allowable Subject Matter**

### **1. Claims 20-23 are allowed.**

1.1. With respect to claims 20-23 the following is a statement of reasons for the indication of allowable subject matter:

While the CHOI and ANDERLE teach load-lock-processing towers, and OGATA and SATO teach two towers having processing and transferring stations sharing a common transfer chamber, the method including the steps of introducing first and second substrates through respective towers, processing the first and second substrates in respective towers and returning them to the respective load-locks of the respective towers as detailed in the language of claim 20 is not taught or fairly suggested by the prior art of record.

## **III. Response to Applicant's Arguments**

Applicant's arguments entered 9/11/06 have been fully considered.

1. Applicant argues that claim 1, as amended, is not anticipated by ANDERLE or CHOI because of the added limitations requiring each tower to comprise both a load lock and processing arrangement. This argument is persuasive. The rejection under 102(b) is therefore withdrawn. Upon further consideration however, a new grounds of rejection over ANDERLE in view of OGATA is presented above.
2. Applicant argues that ANDERLE in view of OGATA does not render claim 2 obvious because the OGATA towers comprise a "transfer unit" as opposed to a "load lock." This argument, though directed to cancelled claim 2, is now pertinent to the rejection of claim 1 and is therefore addressed. This argument is not persuasive. A load lock is a well known and

commonly used type of transfer unit. Though OGATA does not specifically describe the transfer units as load locks, this feature is already disclosed in ANDERLE. OGATA teaches placing transfer units, such as, for example, the load lock of ANDERLE in two load-lock-processing towers sharing a common transfer chamber. It is not required to maintain a rejection under 103(a) over ANDERLE in view OGATA that OGATA specify that the transfer units are load locks.

3. Applicant argues that CHOI does not anticipate nor render obvious claim 1. This argument is anticipatory of a rejection of claim 1 over CHOI. Since no rejection of claim 1 over CHOI is asserted herein, applicant's arguments with respect to CHOI are deemed not ripe for discussion and therefore not addressed at this time.

#### **IV. Conclusion**

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
2. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles N. Greenhut whose telephone number is (571) 272-1517. The examiner can normally be reached on 7:30am - 4:00pm EST.
5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.
6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CG



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